

OIPE

RAW SEQUENCE LISTING DATE: 06/05/2002 TIME: 16:53:21 PATENT APPLICATION: US/10/067,989

Input Set : A:\028750-219.ST25.txt

ENTERD

Output Set: N:\CRF3\06052002\J067989.raw 3 <110> APPLICANT: Dinkins, Randy Reddy, M.S. Srinivasa Collins, Glenn B. 7 <120> TITLE OF INVENTION: Transgenic plants expressing MinD or MinE and an efficient method for plant chloroplast transformation and gene expression 10 <130> FILE REFERENCE: 028750-219 12 <140> CURRENT APPLICATION NUMBER: US 10/067,989 C--> 13 <141> CURRENT FILING DATE: 2002-05-24 15 <150> PRIOR APPLICATION NUMBER: US 60/267,488 16 <151> PRIOR FILING DATE: 2001-02-09 18 <160> NUMBER OF SEQ ID NOS: 1820 <170> SOFTWARE: FastSEQ for Windows Version 4.0 22 <210> SEQ ID NO: 1 23 <211> LENGTH: 326 24 <:212> TYPE: PRT 25 <213> ORGANISM: Arabidopsis thaliana 27 <400> SEQUENCE: 1 28 Met Ala Ser Leu Arg Leu Phe Ser Thr Asn His Gln Ser Leu Leu Leu 5 30 Pro Ser Ser Leu Ser Gln Lys Thr Leu Ile Ser Ser Pro Arg Phe Val 25 32 Asn Asn Pro Ser Arg Arg Ser Pro Ile Arg Ser Val Leu Gln Phe Asn 40 34 Arg Lys Pro Glu Leu Ala Gly Glu Thr Pro Arg Ile Val Val Ile Thr 55 60 36 Ser Gly Lys Gly Gly Val Gly Lys Thr Thr Thr Ala Asn Val Gly 37 65 70 75 38 Leu Ser Leu Ala Arg Tyr Gly Phe Ser Val Val Ala Ile Asp Ala Asp 90 85 40 Leu Gly Leu Arg Asn Leu Asp Leu Leu Gly Leu Glu Asn Arg Val 41 100 105 42 Asn Tyr Thr Cys Val Glu Val Ile Asn Gly Asp Cys Arg Leu Asp Gln 43 120 44 Ala Leu Val Arg Asp Lys Arg Trp Ser Asn Phe Glu Leu Leu Cys Ile 45 135 140 46 Ser Lys Pro Arg Ser Lys Leu Pro Met Gly Phe Gly Gly Lys Ala Leu

155

205

170

195

53

180

150

48 Glu Trp Leu Val Asp Ala Leu Lys Thr Arg Pro Glu Gly Ser Pro Asp

50 Phe Ile Ile Asp Cys Pro Ala Gly Ile Asp Ala Gly Phe Ile Thr

52 Ala Ile Thr Pro Ala Asn Glu Ala Val Leu Val Thr Thr Pro Asp Ile

200

185

Input Set : A:\028750-219.ST25.txt

Output Set: N:\CRF3\06052002\J067989.raw

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The Lys Gly Sep Lys Gly Gly Sep Se	56	_		Arg	Asp	Ile	_		Ile	Val	Asn	_		Arg	Thr	Asp	
60 Gly Leu Ser Leu Leu Gly Val Ile Pro Glu Asp Ser Glu Val Ile Arg 61	58		Lys	Gly	Glu	_		Met	Ser	Val			Val	Gln	Glu		
61		Gly	Leu	Ser	Leu		Gly	Val	Ile	Pro		Asp	Ser	Glu	Val		Arg
63	6.1	_			260					265					270		
66 Ser Met Lys Ala Val Met Val Glu Glu Glu Pro Lys Lys Arg Gly Phe 67 305 310 315 320 68 Phe Ser Phe Phe Gly Gly 69 325 72 <1210> SEQ ID NO: 2 73 <211> LENGTH: 284 74 <212> TYPE: PRT 75 <213> ORGANISM: Chlorella vulgaris 77 <400> SEQUENCE: 2 78 Met Val Phe Ser Thr Gly Asn Gly Asn Gly Asp Asp Asn Ser Lys Gly 79 1 5 10 15 80 Leu Glu Arg Val Ile Val Ile Thr Ser Gly Lys Gly Gly Val Gly Lys 81 20 25 30 82 Thr Thr Thr Thr Ala Asn Leu Gly Met Ser Ile Ala Arg Leu Gly Tyr 83 35 40 45 84 Arg Val Ala Leu Ile Asp Ala Asp Ile Gly Leu Arg Asn Leu Asp Leu 85 50 55 60 86 Leu Leu Gly Leu Glu Asn Arg Val Leu Tyr Thr Ala Met Asp Ile Val 87 65 70 95 88 Glu Gly Gln Cys Arg Leu Asp Gln Ala Leu Ile Arg Asp Lys Arg Trp 89 85 90 95 90 Lys Asn Leu Ala Leu Leu Ala Ile Ser Lys Asn Arg Gln Lys Tyr Asn 91 100 105 110 92 Val Thr Arg Lys Asn Met Gln Asn Leu Ile Asp Ser Val Lys Glu Leu 93 115 120 125 94 Gly Phe Gln Phe Val Leu Ile Asp Cys Pro Ala Gly Ile Asp Val Gly 95 130 15 160 96 Pro Glu Ile Thr Ala Ile Arg Asp Ala Asp Arg Val Ala Cyl Ile Val Thr Thr 97 145 150 150 175 100 Glu Ala Asn Gly Ile Tyr Asn Val Lys Leu Leu Val Asn Arg Val Arg Arg 101 180 185 190 102 Pro Asp Met Ile Gln Lys Asn Asp Met Met Ser Val Arg Asp Val Gln 103 195 200 205 104 Glu Met Leu Gly Ile Pro Leu Leu Gly Ala Ile Pro Glu Asp Thr Ser	63			275					280					285			
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77	74	<:212	2'> TY	PE:	PRT												
Met Val Phe Ser Thr Gly Asn Gly Asn Gly Asp Asp Asp Asp Ser Lys Gly	75	-:213	3> OI	RGANI	SM:	Chlo	orell	la vi	ılgaı	cis							
10																	
81			Val	Phe	Ser		Gly	Asn	Gly	Asn	-	Asp	Asp	Asn	Ser	-	Gly
83		Leu	Glu	Arg		Ile	Val	Ile	Thr		Gly	Lys	Gly	Gly		Gly	Lys
84 Arg Val Ala Leu Ile Asp Ala Asp Ile Gly Leu Arg Asn Leu Asp Leu 85 50 55 60 60 86 Leu Leu Gly Leu Glu Asn Arg Val Leu Tyr Thr Ala Met Asp Ile Val 87 65 70 70 75 80 80 88 Glu Gly Gln Cys Arg Leu Asp Gln Ala Leu Ile Arg Asp Lys Arg Trp 89 85 90 95 95 90 Lys Asn Leu Ala Leu Leu Ala Ile Ser Lys Asn Arg Gln Lys Tyr Asn 91 100 100 100 100 100 100 100 100 100		Thr	Thr		Thr	Ala	Asn	Leu	_	Met	Ser	Ile	Ala		Leu	Gly	Tyr
86 Leu Leu Gly Leu Glu Asn Arg Val Leu Tyr Thr Ala Met Asp Ile Val 87 65 70 75 80 88 Glu Gly Gln Cys Arg Leu Asp Gln Ala Leu Ile Arg Asp Lys Arg Trp 90 95 95 90 Lys Asn Leu Ala Leu Leu Ala Ile Ser Lys Asn Arg Gln Lys Tyr Asn 110 100 105 110 110 92 Val Thr Arg Lys Asn Met Gln Asn Leu Ile Asp Ser Val Lys Glu Leu 125 125 125 125 140 94 Gly Phe Gln Phe Val Leu Ile Asp Cys Pro Ala Gly Ile Asp Val Gly 135 140 140 150 155 160 96 Phe Ile Asn Ala Ile Ala Ser Ala Gln Glu Ala Val Ile Val Thr Thr 150 155 160 160 98 Pro Glu Ile Thr Ala Ile Arg Asp Ala Asp Arg Val Ala Gly Leu Leu 175 175 100 175 175 100 175 175 100 175 175 175 100 175 175 175 100 175 175 175 100 175 175 175 100 175 175 175 100 175 175 175 175 175 175 175	84	Arg			Leu	Ile	Asp		Asp	Ile	Gly	Leu		Asn	Leu	Asp	Leu
88 Glu Gly Gln Cys Arg Leu Asp Gln Ala Leu Ile Arg Asp Lys Arg Trp 89	86			Gly	Leu	Glu			Val	Leu	Tyr			Met	Asp	Ile	
89 85 90 95 90 Lys Asn Leu Ala Leu Leu Ala Ile Ser Lys Asn Arg Gln Lys Tyr Asn 100 105 110 92 Val Thr Arg Lys Asn Met Gln Asn Leu Ile Asp Ser Val Lys Glu Leu 115 120 125 94 Gly Phe Gln Phe Val Leu Ile Asp Cys Pro Ala Gly Ile Asp Val Gly 135 140 96 Phe Ile Asn Ala Ile Ala Ser Ala Gln Glu Ala Val Ile Val Thr Thr 150 155 160 98 Pro Glu Ile Thr Ala Ile Arg Asp Ala Asp Arg Val Ala Gly Leu Leu 175 175 175 100 Glu Ala Asn Gly Ile Tyr Asn Val Lys Leu Leu Val Asn Arg Val Arg 185 190 102 Pro Asp Met Ile Gln Lys Asn Asp Met Met Ser Val Arg Asp Val Gln 195 200 205 104 Glu Met Leu Gly Ile Pro Leu Leu Gly Ala Ile Pro Glu Asp Thr Ser			Q1	a1-	0	3		3	a1	21-	T		3	2	Ť		
91	89					85		_			90					95	
93		Lys	Asn	Leu		Leu	Leu	Ala	Ile		Lys	Asn	Arg	Gln		Tyr	Asn
95		Val	Thr		Lys	Asn	Met	Gln		Leu	Ile	Asp	Ser		Lys	Glu	Leu
96 Phe Ile Asn Ala Ile Ala Ser Ala Gln Glu Ala Val Ile Val Thr Thr 97 145		Gly		Gln	Phe	Val	Leu		Asp	Cys	Pro	Ala		Ile	Asp	Val	Gly
97 145 150 155 160 98 Pro Glu Ile Thr Ala Ile Arg Asp Ala Asp Arg Val Ala Gly Leu Leu 99 165 170 175 100 Glu Ala Asn Gly Ile Tyr Asn Val Lys Leu Leu Val Asn Arg Val Arg 101 180 185 190 102 Pro Asp Met Ile Gln Lys Asn Asp Met Met Ser Val Arg Asp Val Gln 103 195 200 205 104 Glu Met Leu Gly Ile Pro Leu Leu Gly Ala Ile Pro Glu Asp Thr Ser		Phe		Asn	Ala	Tle	Ala		Ala	Gln	Glu	Ala		Tle	Va l	Thr	Thr
98 Pro Glu Ile Thr Ala Ile Arg Asp Ala Asp Arg Val Ala Gly Leu Leu 99 165 170 175 100 Glu Ala Asn Gly Ile Tyr Asn Val Lys Leu Leu Val Asn Arg Val Arg 101 180 185 190 102 Pro Asp Met Ile Gln Lys Asn Asp Met Met Ser Val Arg Asp Val Gln 103 195 200 205 104 Glu Met Leu Gly Ile Pro Leu Leu Gly Ala Ile Pro Glu Asp Thr Ser			110			110		501		0111	Olu			110			
99			Glu	Ile	Thr	Ala	Ile	Arg	Asp	Ala	Asp		Val	Ala	Gly	Leu	
100 Glu Ala Asn Gly Ile Tyr Asn Val Lys Leu Leu Val Asn Arg Val Arg 101 - 180 - 180 - 185 - 190 - 190 102 Pro Asp Met Ile Gln Lys Asn Asp Met Met Ser Val Arg Asp Val Gln 103 - 195 - 200 - 205 - 205 104 Glu Met Leu Gly Ile Pro Leu Leu Gly Ala Ile Pro Glu Asp Thr Ser								. 5				- 9			1		
101 180 185 190 102 Pro Asp Met Ile Gln Lys Asn Asp Met Met Ser Val Arg Asp Val Gln 103 195 200 205 104 Glu Met Leu Gly Ile Pro Leu Leu Gly Ala Ile Pro Glu Asp Thr Ser	100	Glu	ı Ala	Asn	Gly	, Ile	Tyr	Asr	ı Val	Lys		ı Let	ı Val	Asn	Arc	y Val	Arg
103 195 200 205 104 Glu Met Leu Gly Ile Pro Leu Leu Gly Ala Ile Pro Glu Asp Thr Ser							_										,
103 195 200 205 104 Glu Met Leu Gly Ile Pro Leu Leu Gly Ala Ile Pro Glu Asp Thr Ser	102	Pro	Asp	Met	. Ile	Glr	Lys	Asn	ı Asp	Met	. Met	. Sei	. Val	Arg	Asp	val	Gln
- · · · · · · · · · · · · · · · · · · ·			_				-		_					_	-		
105 210 215 220	104	Glu	Met	Leu	Gly	r Ile	Pro	Leu	ı Leu	Gly	, Ala	11e	Pro	Glu	Asp	Thr	Ser
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Input Set : A:\028750-219.ST25.txt
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106 Val Ile Ile Ser Thr Asn Lys Gly Glu Pro Leu Val Leu Asn Lys Lys 107 225 230 235 108 Leu Thr Leu Ser Gly Ile Ala Phe Glu Asn Ala Ara Arg Leu Ile 245 250 110 Gly Lys Gln Asp Tyr Phe Ile Asp Leu Thr Ser Pro Gln Lys Gly Met 111 260 265 112 Phe Gln Lys Leu Gln Glu Phe Phe Leu Gly Glu Glu 275 280 116 <210> SEQ ID NO: 3 117 <211> LENGTH: 266 118 <212> TYPE: PRT 119 <213> ORGANISM: Synnechocystis 121 <400> SEQUENCE: 3 122 Met Asn Arg Ile Ile Val Val Thr Ser Gly Lys Gly Gly Val Gly Lys 5 10 124 Thr Thr Thr Ala Asn Leu Gly Ala Ala Leu Ala Arg Leu Gly Lys 20 25 125 126 Lys Val Val Leu Ile Asp Ala Asp Phe Gly Leu Arg Asn Leu Asp Leu 128 Leu Leu Gly Leu Glu Gln Arg Ile Val Tyr Thr Ala Ile Asp Val Leu 55 130 Ala Asp Glu Cys Thr Ile Asp Lys Ala Leu Val Lys Asp Lys Arg Leu 132 Pro Asn Leu Val Leu Leu Pro Ala Ala Gln Asn Arg Ser Lys Asp Ala 90 85 134 Ile Asn Ala Glu Gln Met Gln Ser Leu Val Glu Gln Leu Lys Asp Lys 135 100 105 136 Phe Asp Tyr Ile Ile Ile Asp Cys Pro Ala Gly Ile Glu Ala Gly Phe 115 120 138 Arg Asn Ala Val Ala Pro Ala Glu Glu Ala Ile Ile Val Thr Thr Pro 135 140 Glu Met Ser Ala Val Arg Asp Ala Asp Arg Val Ile Gly Leu Leu Glu 141 145 150 155 142 Ala Glu Asp Ile Gly Lys Ile Ser Leu Ile Val Asn Arg Leu Arg Pro 165 170 144 Glu Met Val Gln Leu Asn Gln Met Ile Ser Val Glu Asp Ile Leu Asp 145 180 185 146 Leu Leu Ala Val Pro Leu Ile Gly Ile Leu Pro Asp Asp Gln Lys Ile 195 200 148 Ile Ile Ser Thr Asn Lys Gly Glu Pro Leu Val Met Glu Glu Lys Leu 210 215 220 150 Ser Val Pro Gly Leu Ala Phe Gln Asn Ile Ala Arg Arg Leu Glu Gly 230 235 152 Gln Asp Ile Pro Phe Leu Asp Phe Met Ala Ala His Asn Thr Leu Leu 245 250 154 Asn Arg Ile Arg Arg Leu Leu Gly Gly 260 158 <210> SEQ ID NO: 4 159 <211> LENGTH: 270

Input Set : A:\028750-219.ST25.txt
Output Set: N:\CRF3\06052002\J067989.raw

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165		1	_	•	5	- 1	- 1		m l	10	-		a 1	-	15	+
	Thr	Inr	Ser	Ser	Ата	Ala	11e	Ala	Thr 25	GTA	Leu	Ата	Gin	Lys 30	GTY	Lys
167	Lvc	Thr	Val	20 Val	т1о	N an	Dho	7 an		~1··	T OU	λrα	λαη		λcn	Tou
169	цуб	1 111	35	vai	116	АБР	PHE	40	116	GIY	ьеи	Alg	45	Leu	кэр	ьeu
	Tle	Met		Cys	Glu	Ara	Ara		Val	Tvr	Asp	Phe		Asn	Va 1	Tle
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174	Glu	Asn	Leu	Tyr	Ile	Leu	Pro	Ala	Ser	Gln	Thr	Arg	Asp	Lys	Asp	Ala
175					85					90					95	
	Leu	Thr	Arg	Glu	Gly	Val	Ala	Lys		Leu	Asp	Asp	Leu		Ala	Met
177			~ 1	100			_	_	105			~ 1	1	1.10		a.1
	Asp	Phe		Phe	He	Val	Cys	-	Ser	Pro	Ala	GLY		G.Lu	Thr	GIY
179	λla	Γου	115 Mot	Ala	T ON	Trans.	Dho	120	λan	clu	λla	Tlo	125	Thr	Thr	λcn
181	ALa	130	мес	Ala	Leu	тут	135	ніа	АБР	Glu	міа	140	116	1 111	1111	ASII
	Pro		Va 1	Ser	Ser	Val		Asp	Ser	Asp	Ara		Leu	Glv	Ile	Leu
	145					150	,	112			155			1		160
184	Ala	Ser	Lys	Ser	Arg	Arg	Ala	Glu	Asn	Gly	Glu	Glu	Pro	Ile	Lys	Glu
185					165					170					175	
	His	Leu	Leu	Leu	Thr	Arg	Tyr	Asn		Gly	Arg	Val	Ser	Arg	Gly	Asp
187				180	_				185	_			_	190		
	Met	Leu		Met	Glu	Asp	Val		Glu	Ile	Leu	Arg		Lys	Leu	Val
189	C1	170 1	195	Dwo	C1	7 ~~	C1 =	200	17.0.1	T 0.11	7 m m	7. 1.0	205	N a n	C1 n	C1
191	_	va1 210	тте	Pro	GIU	ASP	215	ser	val	Leu	Arg	220	ser	ASII	GIII	GIY
			Va 1	Ile	Leu	Asp		Asn	Ala	Asp	Ala		Lvs	Ala	Tvr	Ala
	225				Lou	230					235	0-1	-10		- 1 -	240
194	Asp	Thr	Val	Glu	Arg	Leu	Leu	Gly	Glu	Glu	Arg	Pro	Phe	Arg	Phe	Ile
195					245					250					255	
196	Glu	Glu	Glu	Lys	Lys	Gly	Phe	Leu	-	Arg	Leu	Phe	Gly	_		
197				260	_				265					270		
				NO:												
				H: 97	/											
		2 > TY		ISM:	Cunc	ahor	wet:	ic cr	,							
				ICE:	_	cnoc	:ysc:	rs st	٠.							
				Glu		Ile	Glu	Ara	Leu	Phe	Ser	Ara	Ser	Glv	Lvs	Asn
207	1				5			5		10		9		1	15	
		Gly	Glu	Asp	-	Arg	Arg	Arg	Leu		Leu	Val	Ile	Ala		Asp
209		-		20		-	-	-	25	-				30		=
	Arg	Ser	Gly	Leu	Ser	Pro	Glu	Met	Met	Glu	Glu	Met	Arg	Arg	Glu	Ile
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Input Set : A:\028750-219.ST25.txt
Output Set: N:\CRF3\06052002\J067989.raw

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		Val	Arq	Arq	Val		Arg	Thr	Lys	Ala		Ser	Glu	Ala	Gln	Glu
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218	Ser															
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229	1				5					10					15	
	Arg	Glu	Asp		Lys	Arg	Arg	Leu	_	Leu	Val	Leu	Ala		Asp	Arg
231				20		_		_	25	_		_	- 1	30	_ ,	_
	Ser	Thr		Asn	Ala	Ser	Thr		Glu	Lys	Met	Arg		Glu	Ile	Leu
233	*	*** 1	35	a	.		17- 1	40	.		ml	3	45	T	a 1	Dh.
	Leu		vaı	ser	Lys	Tyr		GIU	Leu	Asp	Thr		ser	ьеu	Glu	Pne
235	Cor	50	λνα	Thr	λan	Cor	55	Mot	Thr	λla	Lou	60	λla	λan	Lou	Dro
237		шe	Arg	1111	Asp	70	гуу	мес	1111	нта	75	116	нта	ASII	Leu	80
		Δra	Δra	Ile	Len		Men	Tla			75					00
239	110	Arg	лгу	116	85	цуз	пар	110								
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		2> T			-											
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248	Met	Ala	Thr	Leu	Leu	Gln	Gln	Gly	Thr	Phe	Ala	Pro	His	Arg	Ser	Trp
249	1				5					10					15	
	Ser	Gly	Arg	Lys	Gly	Thr	Arg	Arg	Val	Cor	Tire	Pro	Thr	Leu	7 ~ ~	Δra
251				20					vai	ser	гуз	110			ASII	Arg
	Leu	His	Val	λνσ					25					30		
253				ALY	Ser	Ser	Ser	_	25					30	Ser	
			35					40	25 Ala	Gly	Ala	Gly	45	30 Val	Ser	Asp
	Ala		35				Arg	40	25 Ala	Gly	Ala	Gly Pro	45	30 Val		Asp
255		50	35 Leu	Ala	His	Leu	Arg 55	40 Asn	25 Ala Ala	Gly Gly	Ala His	Gly Pro 60	45 Val	30 Val Pro	Ser Glu	Asp Ala
255 256	Pro	50	35 Leu	Ala	His	Leu Phe	Arg 55	40 Asn	25 Ala Ala	Gly Gly	Ala His Lys	Gly Pro 60	45 Val	30 Val Pro	Ser	Asp Ala Ile
255 256 257	Pro 65	50 Gly	35 Leu Leu	Ala Gln	His Gly	Leu Phe 70	Arg 55 Val	40 Asn Ala	25 Ala Ala Lys	Gly Gly Leu	Ala His Lys 75	Gly Pro 60 Ala	45 Val Ala	30 Val Pro Trp	Ser Glu Gln	Asp Ala Ile 80
255 256 257 258	Pro 65	50 Gly	35 Leu Leu	Ala Gln Glu	His Gly Lys	Leu Phe 70	Arg 55 Val	40 Asn Ala	25 Ala Ala Lys Leu	Gly Gly Leu Thr	Ala His Lys 75	Gly Pro 60 Ala	45 Val Ala	30 Val Pro Trp	Ser Glu Gln Gly	Asp Ala Ile 80
255 256 257 258 259	Pro 65 Phe	50 Gly Phe	35 Leu Leu Pro	Ala Gln Glu	His Gly Lys 85	Leu Phe 70 Pro	Arg 55 Val Pro	40 Asn Ala Val	25 Ala Ala Lys Leu	Gly Gly Leu Thr	Ala His Lys 75 Pro	Gly Pro 60 Ala	45 Val Ala Asp	30 Val Pro Trp Glu	Ser Glu Gln Gly 95	Asp Ala Ile 80 Lys
255 256 257 258 259 260	Pro 65 Phe	50 Gly Phe	35 Leu Leu Pro	Ala Gln Glu Arg	His Gly Lys 85	Leu Phe 70 Pro	Arg 55 Val Pro	40 Asn Ala Val	25 Ala Ala Lys Leu Ala	Gly Gly Leu Thr	Ala His Lys 75 Pro	Gly Pro 60 Ala	45 Val Ala Asp	30 Val Pro Trp Glu Ile	Ser Glu Gln Gly	Asp Ala Ile 80 Lys
255 256 257 258 259 260 261	Pro 65 Phe Asn	50 Gly Phe Arg	35 Leu Leu Pro	Ala Gln Glu Arg 100	His Gly Lys 85 Met	Leu Phe 70 Pro	Arg 55 Val Pro Leu	40 Asn Ala Val	25 Ala Ala Lys Leu Ala 105	Gly Gly Leu Thr 90 Asp	Ala His Lys 75 Pro	Gly Pro 60 Ala Lys Cys	45 Val Ala Asp Gly	30 Val Pro Trp Glu Ile 110	Ser Glu Gln Gly 95 Thr	Asp Ala Ile 80 Lys Pro
255 256 257 258 259 260 261 362	Pro 65 Phe Asn	50 Gly Phe Arg	35 Leu Leu Pro Leu	Ala Gln Glu Arg 100	His Gly Lys 85 Met	Leu Phe 70 Pro	Arg 55 Val Pro Leu	40 Asn Ala Val Val Glu	25 Ala Ala Lys Leu Ala 105	Gly Gly Leu Thr 90 Asp	Ala His Lys 75 Pro	Gly Pro 60 Ala Lys Cys	45 Val Ala Asp Gly	30 Val Pro Trp Glu Ile 110	Ser Glu Gln Gly 95	Asp Ala Ile 80 Lys Pro
255 256 257 258 259 260 261 362 263	Pro 65 Phe Asn	50 Gly Phe Arg Ser	35 Leu Leu Pro Leu Leu	Ala Gln Glu Arg 100 Thr	His Gly Lys 85 Met	Leu Phe 70 Pro Ile Met	Arg 55 Val Pro Leu Arg	40 Asn Ala Val Val Glu 120	25 Ala Ala Lys Leu Ala 105 Ser	Gly Gly Leu Thr 90 Asp	Ala His Lys 75 Pro Arg Val	Gly Pro 60 Ala Lys Cys Gln	45 Val Ala Asp Gly Ala 125	30 Val Pro Trp Glu Ile 110 Val	Ser Glu Gln Gly 95 Thr	Asp Ala Ile 80 Lys Pro Ala
255 256 257 258 259 260 261 362 263	Pro 65 Phe Asn	50 Gly Phe Arg Ser	35 Leu Leu Pro Leu Leu	Ala Gln Glu Arg 100 Thr	His Gly Lys 85 Met	Leu Phe 70 Pro Ile Met	Arg 55 Val Pro Leu Arg	40 Asn Ala Val Val Glu 120	25 Ala Ala Lys Leu Ala 105 Ser	Gly Gly Leu Thr 90 Asp	Ala His Lys 75 Pro Arg Val	Gly Pro 60 Ala Lys Cys Gln	45 Val Ala Asp Gly Ala 125	30 Val Pro Trp Glu Ile 110 Val	Ser Glu Gln Gly 95 Thr	Asp Ala Ile 80 Lys Pro Ala
255 256 257 258 259 260 261 263 264 265	Pro 65 Phe Asn Asp	50 Gly Phe Arg Ser Val	35 Leu Leu Pro Leu Leu 115 Asp	Ala Gln Glu Arg 100 Thr	His Gly Lys 85 Met Gly Glu	Leu Phe 70 Pro Ile Met Thr	Arg 55 Val Pro Leu Arg Glu 135	40 Asn Ala Val Val Glu 120 Glu	25 Ala Ala Lys Leu Ala 105 Ser	Gly Gly Leu Thr 90 Asp Ile	Ala His Lys 75 Pro Arg Val Glu	Gly Pro 60 Ala Lys Cys Gln Val 140	45 Val Ala Asp Gly Ala 125 Asn	30 Val Pro Trp Glu Ile 110 Val Leu	Ser Glu Gln Gly 95 Thr	Asp Ala Ile 80 Lys Pro Ala Thr
255 256 257 258 259 260 261 263 264 265 266 267	Pro 65 Phe Asn Asp Tyr Asp 145	50 Gly Phe Arg Ser Val 130 Pro	15 Leu Pro Leu Leu 115 Asp	Ala Gln Glu Arg 100 Thr Ile Leu	His Gly Lys 85 Met Gly Glu	Leu Phe 70 Pro Ile Met Thr Thr	Arg 55 Val Pro Leu Arg Glu 135 Ile	40 Asn Ala Val Val Glu 120 Glu	25 Ala Ala Lys Leu Ala 105 Ser Glu Ser	Gly Leu Thr 90 Asp Ile Ile Val	Ala His Lys 75 Pro Arg Val Glu Ala 155	Gly Pro 60 Ala Lys Cys Gln Val 140 Val	45 Val Ala Asp Gly Ala 125 Asn	30 Val Pro Trp Glu Ile 110 Val Leu Val	Ser Glu Gln Gly 95 Thr Ser Ser	Asp Ala Ile 80 Lys Pro Ala Thr Arg 160
255 256 257 258 259 260 261 263 264 265 266 267	Pro 65 Phe Asn Asp Tyr Asp 145	50 Gly Phe Arg Ser Val 130 Pro	15 Leu Pro Leu Leu 115 Asp	Ala Gln Glu Arg 100 Thr Ile Leu	His Gly Lys 85 Met Gly Glu	Leu Phe 70 Pro Ile Met Thr Thr	Arg 55 Val Pro Leu Arg Glu 135 Ile	40 Asn Ala Val Val Glu 120 Glu	25 Ala Ala Lys Leu Ala 105 Ser Glu Ser	Gly Leu Thr 90 Asp Ile Ile Val	Ala His Lys 75 Pro Arg Val Glu Ala 155	Gly Pro 60 Ala Lys Cys Gln Val 140 Val	45 Val Ala Asp Gly Ala 125 Asn	30 Val Pro Trp Glu Ile 110 Val Leu Val	Ser Glu Gln Gly 95 Thr Ser	Asp Ala Ile 80 Lys Pro Ala Thr Arg 160

VERIFICATION SUMMARY

DATE: 06/05/2002 TIME: 16:53:22

PATENT APPLICATION: US/10/067,989

Input Set : A:\028750-219.ST25.txt
Output Set: N:\CRF3\06052002\J067989.raw

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date